

CLAIMS

What is claimed is:

- 1           1.     A geographical location communication system comprising:  
2           a plurality of references, each having reference positional data;  
3           a mobile unit within a region covered by a reference, the mobile unit capable of  
4           determining the geographical location (geo-location) of the mobile unit; and  
5           a locator to receive compressed geo-location data of the mobile unit and to  
6           determine the geo-location of the mobile unit by comparing the compressed geo-location  
7           data against the reference positional data of the reference covering said region.
- 1           2.     A system of claim 1, wherein the mobile unit determines the geo-location  
2           using a Global Position System.
- 1           3.     A system of claim 1, wherein the compressed geo-location data is in units of  
2           latitude and longitude.
- 1           4.     A system of claim 3, wherein the compressed geo-location data includes at  
2           most one least significant degree digit of the latitude and at most two least significant  
3           degree digits of the longitude.
- 1           5.     A system of claim 4, wherein the locator determines the most significant  
2           degree digit of the latitude and at least the most significant degree digit of the longitude.
- 1           6.     A method for communicating geographical location comprising:

2 establishing a plurality of references, each having reference positional data and an  
 3 identification (ID) code;  
 4 determining the geographical location (geo-location) of a mobile unit operating in a  
 5 region;  
 6 receiving a compressed geo-location data of the mobile unit and a reference data of  
 7 a reference covering said region; and  
 8 recovering the geo-location of the mobile unit by comparing the compressed geo-  
 9 location data against a reference positional data, said reference positional data obtained  
 10 from the received reference data.

1 7. A method of claim 6, wherein determining the geo-location of the mobile  
 2 unit using a Global Position System.

1 8. A method of claim 6, wherein the compressed geo-location data is in units of  
 2 latitude and longitude.

1 9. A method of claim 8, wherein the compressed geo-location data includes at  
 2 most one least significant degree digit of the latitude and at most two least significant  
 3 degree digits of the longitude.

1 10. A method of claim 9, wherein recovering the most significant degree digit of  
 2 the latitude and at least the most significant degree digit of the longitude.

1 11. A cellular network comprising:  
 2 a plurality of cellular systems, each having reference positional data;  
 3 a mobile unit within a region covered by a cellular system, the mobile unit capable  
 4 of determining the geographical location (geo-location) of the mobile unit; and

5 an application service provider (ASP) to receive compressed geo-location data of the  
6 mobile unit and to determine the geo-location of the mobile unit by comparing the  
7 compressed geo-location data against the reference positional data of the reference covering  
8 said region.

1 12. A network of claim 11, wherein the mobile unit determines the geo-location  
2 using a Global Position System.

1 13. A network of claim 11, wherein the compressed geo-location data is in units  
2 of latitude and longitude.

1 14. A network of claim 13, wherein the compressed geo-location data includes at  
2 most one least significant degree digit of the latitude and at most two least significant  
3 degree digits of the longitude.

1 15. A network of claim 14, wherein the ASP determines the most significant  
2 degree digit of the latitude and at least the most significant degree digit of the longitude.

1 16. A method for communicating geographical location in a cellular network  
2 comprising:

3 determining the geographical location (geo-location) of a mobile unit operating in a  
4 region;

5 receiving a compressed geo-location data of the mobile unit and an identification  
6 code corresponding to a cellular system covering said region;

7 recovering the geo-location of the mobile unit by comparing the compressed geo-  
8 location data against a reference positional data, said reference positional data obtained  
9 from the received identification code.

1           17.     A method of claim 16, wherein the identification code is a system  
2     identification code of the cellular system covering said region.

1           18.     A method of claim 16, wherein the identification code is one of a cell cite, a  
2     point code of a home location register, a point code of a visiting location register or a point  
3     code of a mobile switch center.

1           19.     A method of claim 16, wherein determining the geo-location of the mobile  
2     unit using a Global Position System.

1           20.     A method of claim 16, wherein the compressed geo-location data is in units  
2     of latitude and longitude.

1           21.     A method of claim 20, wherein the compressed geo-location data includes  
2     one least significant degree digit of the latitude and at most two least significant degree  
3     digits of the longitude.

1           22.     A method of claim 21, wherein recovering the most significant degree digit  
2     of the latitude and at least the most significant degree digit of the longitude.

1           23.     A mobile asset tracking system comprising:  
2             a plurality of geographical references, each having reference positional data;  
3             a mobile asset installed with a mobile unit operating in a region covered by a  
4     geographical reference, the mobile unit to determine the geographical location (geo-  
5     location) of the mobile asset and to report a compressed geo-location data of the mobile  
6     asset; and

7 a locator to receive the compressed geo-location data of the mobile unit and to  
8 determine the geo-location of the mobile asset by comparing the compressed geo-location  
9 data against a reference positional data of the reference covering said region.

1 24. A system of claim 23, wherein the mobile unit determines the geo-location  
2 using a Global Position System.

1 25. A system of claim 23, wherein the compressed geo-location data is in units  
2 of latitude and longitude.

1 26. A system of claim 25, wherein the compressed geo-location data includes at  
2 most one least significant degree digit of the latitude and at most two least significant  
3 degree digits of the longitude.

1 27. A system of claim 26, wherein the locator determines the most significant  
2 degree digit of the latitude and at least the most significant degree digit of the longitude.

1 28. A system of claim 23, wherein the compressed geo-location data is  
2 transmitted through a cellular network.